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ABSTRACT

Social studies educators should refrain from using computer-assisted instruction as much as possible; instead, they should create a program that reveals the hard facts of a computerized society and its dangers to civil liberties and human dignity. Past examples of the standardizing effects of technology reach as far back as the printing press. Currently, the new technology threatens even further homogenization of information. New developments are propagated by self-interested industries and welcomed by technocratic administrators desiring to economize on education. Further, reactionary technocratic governments promote the introduction of new gadgets in education not only for efficiency and economy, but also to get a stronger grip on its content. Although personal contact between teacher and child remains the major educative factor today, computers threaten this tradition by eliminating teacher authority and further isolating children from human interaction. While computers promise advantages in solving convergent problems, they also promise the inability to solve divergent problems requiring feeling, understanding, love, and ethical values. To counterbalance these influences of the technological revolution, teachers should develop their own teaching aids and make themselves independent of major publishers in their realization that there are no easy solutions to complex social problems. (LH)

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ALTERNATIVE TEACHING AIDS,

or why we can do without the new technology in Political Education

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ABSTRACT

The new technology for various reasons is not acceptable to teachers of social sciences who concentrate on political education. The direct and indirect influences of computers on the 'social awareness' of students are underestimated by champions of the computerized classroom. Political education should concentrate on the search for alternative solutions to social and political problems and that is where computers fail. The teacher should develop her own teaching aids and make herself independent of big publishing houses.

In what way can people learn best about society? From the dialogues of Plato to the computerized classrooms of the 20th century in the USA is quite a step. A question that almost unavoidably comes to mind is: which method is most effective? Well, Socrates was certainly not the worst teacher, but who is making the software nowadays? Another question: would Socrates make software for big publishing houses? Or would he gladly leave this task to the sophists? However, the major question of all teaching has not changed since ancient times: what do we aim at, and if goals are determined, what are the optimal methods and teaching aids?

What we forget by thinking this way is that the medium is the massage (M. MacLuhan). Education is no exception to this rule. As Walter Benjamin (1) asserted in different historical epochs there prevail different ways of living, which influence the whole way we observe through our senses. Benjamin brilliantly analyses how the reproductive possibilities of photography and of the printing press changed the process of education even more. The printing press was a sine qua non to the bureaucratisation of the

modern state, as all kinds of minitious regulations could be distributed throughout the country. But the press, as William M.Ivins (2) makes clear, did more: exact reproduction of all kinds of images was a necessary condition for the development of science and for scientific instruction. This phenomenon only indirectly touches the role that images can play in education, as Comenius pointed out in his Orbis Pictus. The early 19th century printing techniques, like the steelgravure and the lithograph, prepared the way for standardization and sheer, endless reproduction. While students in the Middle Ages had to study in groups having only one book at their disposal, in the 20th century every child in primary school has books of his/her own and is working individually. This can only be seen as gainful in comparison with a 19th century school where a teacher had to rule (and by what means!) over a crowd of 50 to 100 unwilling pupils, with hardly any teaching aids, as the situation was in many countries. Nowadays information is the lifeblood of governments. A government is only sovereign in proportion to the level on which it collects, analyses, keeps and distributes information.

Jacobson (3) sees this sovereignty infringed upon by multinationals like SBS (Satellite Business Systems) a common venture of IBM, Communications Satellite Corp. (Comsat) and Aetna Life and Casualty Insurance Cpy. The combination of satellites and computers has the potential to break through all national information barriers. It is no coincidence that governments everywhere try to monopolize

education, where they get a chance to do this. Where they do not have this chance, they put it under strict financial control, both quantitatively and qualitatively. Education is not only fundamental to the disciplinary functions of the state, it also conditions children to ways of receiving and decoding information. It implicitly makes them accept certain information and reject other. This process of uniformatisation and homogenisation of the senses could start when printing presses began to do their reproductive work efficiently and cheaply.

Not only will the new developments on the front of satellites and computers change the situation as regards the information function of governments in general, they will also have farreaching influence on the way in which education will be organised according to content and methods. These new technological developments are propagated by industries whose interests I do not have to explain and they are welcomed by technocratic administrations desiring to economize on education (4).

If we look at the main trends in political education in the FRG, the Netherlands and other West European countries we see that the more critical ideas of the sixties have almost completely vanished. The German magazine "Betrefft Erziehung" in its editorial of number 10 (1982, p. 23) states: "We have come so far now, that schoolbook publishers, who produce books for the field of Political Education, have themselves cogently taken over the affair of censorship: in the board of editors and the circles of readers one knows on the basis of bitter experiences, which parts, which materials

which questions could give offence to the gatekeeping authorities". And further ... "to the dynamic field of political education quietness has returned. Truly we mean: the quitness of the cemetery".

This is a German example, but the same tendencies have been traceable in the USA for a long time already. During the Reagan administration they show themselves more openly. Reactionary technocratic governments are promoting the introduction of new gadgets in education not only for reasons of efficiency and economy, but also in order to get a stronger grip on its content.

Would the multinationals producing the software make materials for political education that differ ideologically from what is published now in Germany and the USA? For obvious reasons this cannot be expected as these publishers have themselves no interest in a critical analysis of power relations in our society. Their interests are already completely interwoven with those of the state in many fields and there is hardly any reason for them to publish anything that the state, or any government official would not like.

When we look at the international developments we can foresee an educational market that will be as uniformatised as is at present already the case with the market of consumer goods. Only what sells best will be produced and there is no doubt about it that this will have the least controversial content we can think of.

What we will have is a highly advanced technology working with most mediocre kinds of programmes and software, if we

look at it from a social creative and political-imaginative viewpoint.

In the present 'banking' system of schooling (as Illich calls it), there is hardly any room for the real individual development of the child. Not only do schools keep children in artificial learning situations, they socialise them latently and manifestly to become citizens who accept the social and political situation in their country as unchangeable and the only one possible. This result is attained in many different ways and by various means, sometimes subtle, sometimes crude. In their own way many authors have drawn our attention to these facts (Dewey, Goodman, Parsons, Illich, Freire, etc.).

For several decades television has been reinforcing this process of conformation to the existing order enormously. Although we are far from having a detailed insight in the short and longterm effects of TV, we may say that it certainly does not try to make people critical of their own society and of the vested interests on which it rests. People have access to a flood of information through television, or so it seems, as closer analysis shows the limitations and one-sidedness of all this material.

It is no new assertion to say that schools are no longer the major public educational institute, but that the mass media are at least as important, certainly in the field of social studies and political education.

There is a lot that can be said about the second and third hand world that comes to us through these mass media channels. The possibilities for manipulation of information and

consumers are numerous and it is true that these media shape the masses, whose needs they fulfill by giving them what they are conditioned to ask for.

How has education reacted to this technological and information processing developments? So far, and speaking generally, schools have not really resisted or redressed the influence of these media. Instead they have tried to compete with them by introducing the same technological aids, sometime - but this is an exception - with software that really criticised society. However that may be, schools have latently fostered the use of these media by students, reinforced the authority of the media and conditioned the students' senses to the screen.

It goes without saying that education also came under pressure from the big industries to buy their products. But it is all too easy to lay all the blame on the doorstep of big business. First of all, education as a social institution is part of society and it is as sensitive to trends as any other sector, although perhaps somewhat more conservative, following social change at a distance. Education hardly ever initiates social change, being far more a product of society than an autonomous factor in it. Here we find the main cause for why that education has never defined its own character ethically, pedagogically and didactically. Regarding the transfer of knowledge, it has more or less automatically followed what the state and society asked for,(or rather,what the prevailing interests required) and what technology had to offer. With some hesitation, it must be admitted, education integrated radio, film and TV.

So far it is true that the use of these technological aids has not changed the process of education fundamentally. The teacher has remained in the center of this process, whether she used film, TV or radio. Perhaps she did not exhaust all the different aspects of the new aids and she was sometimes criticised for that. She was looking for the more positive side of these things: where they could be a help in an otherwise dull or abstract lesson. But she still kept the class intact, using very traditional means of transfer like straight teaching, testing and discussing. Unconsciously perhaps, she was countering the manipulative forces of the media in the simple interactions between teacher and class. Research in different countries shows us (5) that teachers spend 60 to 70 percent of the day talking to students. Of a six hours elementary schoolday 126 minutes are spent on instruction, less than one minute a day is occupied in providing interactive trials with, and feedback to, individual students. These figures are used by advocates of computers for introducing them, e.g. by Papert (6) who wants a computer in the hands of every child. According to him the computer will correct children's mistakes and through the intricasies of 'logo' they will"learn how to learn" everything else. The personal computer would call for creative mental doodling and experimentation. The computer can give feedback that the teacher never will be able to, mainly due to lack of time. These figures can, however, also be used in a plea to ban computers from the classroom. The teacher has her special place in classroom setting. She can bring her own personality with all its idiosyncrasies and can give her own opinion. She

She has had growing difficulties to do this with the advent of films and TV-programs as these have an authority with which she cannot compete. Now it has become clear to her that she has been wrong in some respects in her earlier explanations of the same theme and that she has not always treated things to the latest scientific standards. She became more and more dependent on authoritative sources. At last she had almost forgotten to give children an impression of what it means to have a viewpoint of your own based on reasoning, by her own example.

In the field of social studies she ran a risk by doing this. She could be accused of indoctrinating her pupils, specially when she told them about society in the way social scientists look at it. She would discover that materials such as books and software are much more acceptable to parents, seeming more authoritative than what she told the children, or was believed to tell them.

In spite of all this, education has still kept its main tradition intact: a personal contact between teacher and child remains the major educative factor. All the pieces of apparatus could not do away with the personal interaction between students and teacher as the factor determining classroom atmosphere. The new computers, however, are a real threat to this tradition. The child can be seen at home, completely lost in his screen playing all kinds of games, isolated from the family. After the automobile took away children's playgrounds in the cities, TV put what remained of children's games into oblivion. The next logical step in this sequence is that the computer screen not only

at home, but also in the schoolroom, will replace parents and teachers in their instructive functions. Particularly, the computer will be much more destructive to school education than all the other gadgets, because it will isolate the individual child still further. The socialising functions of the old children's games seem to be completely forgotten. Yet children learned a lot by playing them about cooperation, how to be good sport, and all kinds of social behaviour. Games stimulate phantasy and creativity. In the old-fashioned schoolclass, the main function of which was, as now, disciplining the students, children developed an anti-school culture of their own. By doing this, they got a compensatory training in defending their self-respect by mutual help, that can be of great use in later life.

When the computer is sufficiently developed, the child will need no teacher, because the screen will help him out in every respect. This is not the case at the moment, as programs are not yet elaborate enough, but they are perfected, and time will make this true. Already now the computer supplies answers and solutions to almost every question that is asked. The child can help himself, as the propagandists of 'logo' tell us enthusiastically. But was this the purpose of pedagogues like Montessori and Dewey who once propagated more autonomous lerning?

Children need children and adults to grow up and there is already hardly enough humans interaction to make it tick. This is such an obvious and fundamental law, why is it then that we continually neglect it?

It is true that prophecies made by inventors have not yet

come true. Edison (7) said in 1913: "Books will soon be obsolete in the schools. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in ten years". And Kurtz more or less repeated this statement in 1933 as regards television: "This new instrumentality (television) bids fair to become the most potent agency for universal education ever conceived. For, in due time, every home will have its own classroom, with professor, blackboard, diagrams, pictures, and students". (8)

Well we know better now, but this does not mean that history will repeat itself, although authors like Sharkan and Goodman try to reassure us by saying: "Technology may revolutionize education only on the premise that it will enable us to do a better job of teaching. Machines can only help people do a better job; witness the industrial revolution". (9) They write this at the very moment that the western world is confronted with mass unemployment!

The problem is that certain jobs are done better without people and we can only guess what the reaction will be of all those youngsters who have hardly any work future. As in society, the problem in education will be that once we have installed the computer in the classroom we will not be able to get it out. It is not an auxiliary like film or TV - but the trouble is, the computer replaces the teacher. Her role will be compensatory, with all the loss of contact that this implies.

For social studies the computer seems to be the final straw, as there is hardly a place for the study of real alternatives

in programs produced by multinationals. Theoretically, there are enormous possibilities imaginable, but that goes only for the more advances programs. In intricate simulations alternative social systems could be tested, but this requires a lot of knowledge and insight into social and political structures that students do not possess. So this kind of programs will not be the common type in schools.

The fundamental question is whether education should accept, after the usual objections are made, the penetration of new gadgets in the field of social studies. The choice should be made after balancing all the pro's and cons of computers in education.

A positive factor is the saving of time spent on rote learning as we see in arithmetic, topography etc. Although I find it a loss that children can hardly calculate by heart anymore, this time reduction factor hardly has a function in social studies, if we intend to teach thinking in alternatives about complicated social and political problems.

On the positive side is that all kinds of information are within reach of students. Encyclopedia's, libraries, files can be consulted and this is a real asset to social studies, where it has always been one of the major problems to get students to collect information.

A third advantage is, as I said, that simulation of complicated social and political problems is possible, but I have my doubts as to their present application in high schools.

A fourth interesting point is the use that has to be made of computers in the so called 'civil informatica', lessons about the consequences for society of the introduction of

the computer, lessons that fit very well in social studies. On the negative side of the balance we find some heavy weighing factors. First of all the new materials will be complete to that effect that no teacher has the slightest chance to intervene. The program will go its own way step by step and there is no sidetracking possible. What we can appreciate is the logical consistency of this method, because it contains a lot of formal learning. However, as fas as social studies are concerned this point is only partly of interest. For social studies we need a holistic approach that leaves room for speculation, fantastic ideas, brainstorming and whatever you have of free associative thinking. What this world needs is creative thinking in real alternatives for the political-economic systems that divide the world today, that exhaust themselves and natural resources in a useless arms' race, that pollute the environment and exploit the Third World. Children should learn to develop in themselves what the computer cannot do, that is to think horizontally, to bring a piece of thinking from one sector in contact with a piece from a totally different sector, to reflect and wage a new idea, that need not necessarily be realistic but that can stimulate the thinking and inventing of someone else. I am not arguing that there should be no discipline in the thinking of students: what I am saying is, that the more computers enter other subjects, in social studies we should give as much counterweight as we can, only making use of them where we cannot avoid them and where they are useful because they save time and energy.

G.N.M. Tyrell (10) used the terms 'divergent' and 'convergent'

to distinguish problems which cannot be solved by logical reasoning from those that can. Convergent problems are the highlights of man's intelligence, they are the result of abstract thinking. When they have been solved, the solution can be used by others who have not to go through the whole thinking process again. The way of thinking that leads to these solutions can easily be programmed in a computer as well as the results of this kind of thinking.

This is not the case with divergent problems, that are only partly solved by living them. Where human relations come in we are dealing with divergent problems, which cannot be handled in a mechanistic way: they require feeling, understanding, intuition, love and ethical values. It is as E.F. Schumacher put forward:

> The true problems of living - in politics, economics, education, marriage, etc. - are always problems of overcoming or reconciling opposites. They are divergent problems and have no solution in the ordinary sense of the word. They demand of man not merely the employment of his reasoning powers but the commitment of his whole personality. Naturally, spurious solutions, by way of clever formulae, are always being put forward; but they never work for long, because they invariable neglect one of two opposites and thus lose the very quality of human life. In economics, the solution offered may provide for freedom but not for planning, or vice versa. In industrial organisation, it may provide for discipline but not for workers' participation in management, or vice versa. In politics, it might provide for leadership without democracy or, again, for democracy without leadership. (11)

By introducing the computer in social studies we may lose much more than arithmetic lost when the pocket calculator took over. We might lose - and that seems strange at first glance - the whole idea that social and human problems are very difficult to solve in a human way. A computerized society will in general show a reduction of human interaction, because many production situations will no longer need people and the same goes for consumer situations. If the computer teaches logical thinking it simultaneously creates an attitude that longs for easy, machanical solutions to complicated problems. This is a mentality that we recognize very well and that has existed a very long time. The Nazi government was not brought about by a computerised society, but by a highly industrialised one. The general application of computers will not only reinforce forces at work in an industrialised world, it will even change them in a more negative direction, by taking away the creative capacities of many people, making them extensions of these apparati and having them think in line with the programmes the are conditioned to.
This whole process is fostered by the isolation of the individual who is alone with his computer, which will be his library, bookkeeper, recipebook and advisor in many questions. This seems positiv to us now, but we easily forget all the loneliness that goes with it. Who will dare to ask his neighbour for advise, if he can get this on his screen?
Another objection I mentioned earlier, has to do with the role big publishing houses play in this field. When I compare schoolbooks for social studies and political education published in the USA, Great Britain, the Netherlands and the

FRG, I come to the conclusion that hardly a book for social studies in any country can be found that consistently shows our society as fundamentally changeable and that gives cues for change at the same time (12).There are no books or teaching aids made for the purpose of showing alternatives for given social and political situations. The more progressive authors may sometimes prudently quote a well known philosopher who has launched some revolutionary ideas and put some questions for discussion on the theme.
Books with criticism, that make students doubt aspects of their own society do not sell and publishers do not print them, because teachers do not agree with the material or are scared to get into trouble with parents.
From this perspective I do not see any hope for software that helps the student think in alternative ways that really count.
In my opinion then, social studies should refrain from using computers as much as possible. It should only use them for the collection of data and for lessons in 'civil informatica'. But that subject should also be treated very carefully. The mythology about computers has reached gigantic proportions, science fiction is only one example. What we need in fact is a kind of anti-computer program that shows us the hard facts of a computerised society and its dangers to civil liberties and human dignity. Programs like that have to be made by individual teachers or groups of teachers, perhaps with the help of progressive scientists and informatica experts.
I see political education as a very important component of social studies. Its main goal is to provoke interest in

political power relations. What we need then is a kind of shock effect when we want reactions from politically uninterested students. There, too, the teacher has to say the kind of things that students generally do not hear or do not like to hear. This does not mean that she should insult or humilate them. She should, however, not avoid irony and scepticism, but above all else she should treat her subjects with humor. Cartoons then may be a good aid in challenging the students' interest. Series of cartoons that are designed for the purpose, not an accidentally clipped bunch of cartoons from magazines as I have often seen. These should be a real story in the series, in the text and in the pictures. In this way we can follow the idea of the comic strip, with the difference that each image should be more or less funny, or at least there should be some kind of a jest to it. As humor provides an escape, the provocation of the students is less rigorous, more bearable to them.

Each cartoon in the series can help to start a discussion, and the whole tendency of the story can do the same. The end should not be positive if this is not realistic, nor system-confirming: perhaps it should be open, or even negative and pessimistic. The purpose is to confront students with the facts of life and to make them think. At the same time suggestions for an alternative, for an opening should be given. There should be moments where personal choices could have given another direction to one's life. This is the moment where a discussion <u>between students</u>, not <u>between teacher and students</u> should start. The material should help students to have their own discussions and instant answers

should be avoided. There are no easy solutions to complicated social problems and the individual student has to be challenged to think in his/her personal way.

My feeling is that teaching aids which have this function will never be published by the bigger corporations. The series of slides that I have produced were not published by a regular publishing house, only a smaller publisher was willing to take that risk in the Netherlands. And there is not a ghost of a chance that it ever will be on a computer. As long as we are in a position to make this kind of material, there is still hope that we can keep the computer out of the social studies classroom.

NOTES

(1). Benjamin Walter (1936), Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit, Frankfurt, Suhrkamp, 1977

(2). Ivins Jr. William M. (1953) Prints and Visual Communication, Cambridge (Mass.) & London, The MIT Press, 1980

(3). Jacobson Robert E. (1979) Satellite Business Systems and the concept of the dispersed Enterprise: an end to national sovereignty? Media, Culture and Society, 1:3

(4). An extra argument is the decreasing financial support for the schools in the era of Reagonomics: "... technology offers one of the panaceas to increase college board scores; improve reading, math, and language skills; reduce the prolifiration of nonpublic schools; mollify advocates of the voucher system ..." Sharkan William, Goodman John E. (1982). Improving the Climate for Educational Technology, Instructional Innovator 27:5, p. 13

(5). Instructional Innovator 27:5, 1982, p. 29

(6). Papert Seymour (1980) Mindstorms: Children, Computers and Powerful Ideas, Basic Books

(7). Edison Thomas (1913) Interview on Future of Moving Pictures, New York Times, July 13, sec. 3, p. 8

(8). Kurtz E.B. (1933) Interview on Television's Future, New York Times, Jan. 17, sec. 9, p. 4

(9). Ibid.

(10). Tyrell G.N.M. (1930) Grades of Significance, London

(11). Schumacher E.F. (1973) Small is Beautiful, London, Abacus, p. 96 ff.

(12). Schoolbook research done in different countries comes to comparable conclusions comparable to my own. Compare: Haavelsrud Magnus (1980), Indoctrination or Politicization through Textbook Content, International Journal of Political Education, 3:1, p. 67-84;
Jeismann, Karl-Ernst, (1982), Internationale Schulbuch-forschung: Aufgaben, Arbeitsweise und Probleme, Aus Politik und Zeit Geschichte, 32:36, p. 27-37;
Stein, Gerd (ed.) (1979), Schulbuch-Schelte als Politikum und Herausfordering wissenschaftlicher Schulbucharbeit, Klett-Cotta, Stuttgart;
Stein, Gerd, (1979), Immer Arger mit den Schulbüchern, Metzler, Stuttgart;
Tewes, Bernhard, (ed.), (1979) Schulbuch und Politik, Schöningh; Paderborn, München, Wien, Zürich